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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,420	03/12/2004	Raymond H. Kraft	044182/308723	8417

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PILLSBURY WINTHROP SHAW PITTMAN LLP
ATTENTION: DOCKETING DEPARTMENT
P.O BOX 10500
McLean, VA 22102

EXAMINER

LEE, JOHN W

ART UNIT	PAPER NUMBER
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2624

MAIL DATE	DELIVERY MODE
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10/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/800,420

Applicant(s)

KRAFT, RAYMOND H.

Examiner

John Wahnkyo Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 8-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 20041018
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-7 and 16-20, drawn to a method or a computer readable medium encoded with data and instructions for fitting acquired fiducial data to a set of fiducials on a fiducial plate, classified in class 382, subclass 291.
 - II. Claims 8-15, drawn to a method of measuring a location of a feature and fitting the measured fiducial set on a specific coordinate system, classified in class 382, subclass 277.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions group I and group II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because group I does not require mapping the fiducial space. The subcombination, group II, has separate utility such as representing a location of a fiducial in a local fiducial space coordinate system that can be mapped to a corresponding location in a space associated with an image apparatus.

The examiner has required restriction between combination and subcombination inventions. Where applicant elects a subcombination, and claims thereto are

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subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

3. Applicant's election without traverse of group I in the reply filed on 13 September 2007 is acknowledged.

Information Disclosure Statement

4. An initialed and dated copy of Applicant's IDS forms 1449, Paper No. 20041018, is attached to the instant Office action.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3 and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Segman (US 6,178,272)

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Regarding claim 1, Segman discloses a method of fitting acquired fiducial data to a set of fiducials (abstract, "pixel") on a fiducial plate (abstract, "image pixel grid"); said method comprising:

fitting a fiducial grid model to data acquired by an imaging apparatus (Figs. 1A and 3-(1), col. 6, lines 50-66; col. 7, lines 7, lines 1-5, "digitized video image"; col. 10, lines 27-32, "... respective coordinate systems are defined and set up ...");

establishing a conversion from acquired coordinates to ideal fiducial coordinates (Fig. 1A, 1B, 1C, col. 7, lines 25-41, "non-linear scale up or scale down image resolution conversion");

and calculating an absolute location of identified acquired image feature centers in fiducial plate coordinates (Figs. 3 and 4; col. 3, lines 40-66; col. 4, lines 1-2).

Regarding claim 2, Segman discloses said fitting comprises identifying fiducial coordinates for each fiducial captured in said data acquired by said imaging apparatus (col. 22, lines 65-67; col. 23, lines 1-7).

Regarding claim 3, Segman discloses further comprising selectively iterating said identifying coordinates for each fiducial and said calculating an absolute location of identified acquired image feature centers (Fig. 3-(11), "... repeating steps (1) through (10)").

Regarding claim 5, Segman does not disclose any information regarding the rotation or angles of the image apparatus. So, it can be read that Segman's method does not consider a rotation of said imaging apparatus relative to a fiducial grid, which is negligible.

Regarding claim 16, Segman discloses that the steps of the method of the invention could be described as being performed by a data processor, such as a computing platform for executing a plurality of instructions (col. 5, lines 8-19). Moreover, claim 16 is analogous and corresponds to claim 1. See rejection of claim 1 for further explanation.

Regarding claim 17, claim 17 is analogous and corresponds to claim 2. See rejection of claim 2 for further explanation.

Regarding claim 18, claim 18 is analogous and corresponds to claim 3. See rejection of claim 3 for further explanation.

Regarding claim 20, claim 20 is analogous and corresponds to claim 5. See rejection of claim 5 for further explanation.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segman (US 6,178,272) in view of Kwon et al. (US 5,091,972).

Regarding claim 4, Segman disclose all the previous claim limitations except the one recited in claim 4. However, Kwon disclose that said calculating comprises utilizing a linear least squares operation (claims 1 and 3).

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It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Kwon's invention in Segman's invention to provide an efficient and quick method of the fit parameters as suggested by Kwon (col. 2, lines 29-31).

Regarding claim 19, claim 19 is analogous and corresponds to claim 4. See rejection of claim 4 for further explanation.

9. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segman (US 6,178,272) in view of Correa at al. (US 6,340,114).

Regarding claim 6, Segman disclose all the previous claim limitations except the one recited in claim 6. However, Correa discloses a charge-coupled device camera (col. 4, line 1, "CCD").

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Correa's invention in Segman's invention to provide light gathering efficiency and immediate image availability.

Regarding claim 7, Correa further discloses that said imaging apparatus comprises a complementary metal-oxide semiconductor device (col. 4, line 3, "CMOS").

Conclusion

10. No claims are allowed.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Wahnkyo Lee whose telephone number is (571)

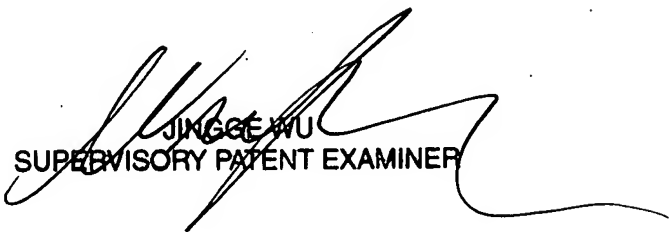
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272-9554. The examiner can normally be reached on Monday - Friday (Alt.) 7:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John W. Lee
(AU 2624)


JINGGE WU
SUPERVISORY PATENT EXAMINER